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NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

THE YEARS OF PROJECT HTAUTOMAT, 1956 - 1958

VOLUME III

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NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

THE YEARS OF PROJECT HTAUTOMAT, 1956 - 1958

VOLUME III

by

25**X**1

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#### VOLUME III

# VIII. HTAUTOMAT Becomes the Photographic Intelligence Center

The period of waiting between submission of the proposal to create a CIA Photographic Intelligence Center and announcement of the decision to do so stretched out over several months. In a dynamic organization such as HTA, with a highly salable product, there was, however, little danger of just marking time. Though only one mission was flown over the USSR, and that in the Far East on 1 March, the Indonesian affair was warming up, and by summer there would be a new crisis in the Middle East. Moreover, JAM SESSION was not yet ended. Installations still awaiting joint action by PIs, intelligence analysts, and consultants, though in no respect as important as those studied earlier, guaranteed that there would be one last fling with the outside experts.

#### A. The Last Months of JAM SESSION

During the spring of 1958, work related to Project JAM SESSION consisted not only of preparations for the final consultant meetings, which would deal with Soviet heavy water and uranium mining and milling facilities, but also of a broad range of activities intended to

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consolidate the gains stemming from the earlier consultant meetings. Among the latter were efforts to publish PI reports on the two Soviet guided missile test centers, provide PI keys to guide HTA interpreters dealing with high-priority scientific and technical installations, familiarize more Military-Scientific Branch PIs with domestic counterparts of Soviet installations in whose interpretation they would be engaged, and obtain approval for use of COMINT in the MSB work area on the seventh floor of the Steuart Building.

#### 1. COMINT Comes to MSB

March 1958 the Military-Scientific Branch was granted permission to have and use COMINT documents along with other collateral documents and photography. 411/ Though the MSB work area was vaulted, like most others in the Steuart Building, this permission was contingent on the installation of a lock and buzzer system for positive control of entry to the vault even during normal working hours. The singling out of MSB for exceptional treatment at this time was a direct result of the special need for COMINT information demonstrated during the previous fall in the exploitation of JAM SESSION installations. It was of immediate and particular usefulness in the preparation

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of materials for the remaining JAM SESSION consultations as well as work done on manuscripts for the PI reports on the Kapustin Yar and Tyura Tam Missile Test Centers.

#### 2. A Bear by the Tail

chief, MSB, had been designated the	25X
chairman of the JAM SESSION photo interpretation effort	
on the Kapustin Yar Missile Test Center and	25X <sup>2</sup>
of the Army, his deputy. For the Tyura Tam Missile Test	
Center the positions were reversed, with serving	25X <sup>2</sup>
as chairman and as his deputy. 412/ Thus, as	25X
the publications effort got under way in the spring of	·
was presumptively in charge of the effort	25 <b>X</b> ′
to prepare the PI report on Tyura Tam and the	25X1
staggering job on KY. The joint effort, in both cases,	
was being carried on, as in all similar reporting, in	
the space devoted to such work in the MSB area. Moreover,	
it was then the custom of MSB regardless of the organiza-	
tional affiliation of the chairman of joint projects, to	
assume responsibility for monitoring production of	
graphics, for typing the manuscript, for ordering photog-	
raphy, and all such mechanical details. 413/ Thus, the	
March and April 1958 MSB monthly reports made the optimis-	
tic observation that manuscripts for reports on both the	

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KY and TT installations were in the final stages of	
preparation for publication. $414$ / Before long, it must	
have become apparent that, in the KY manuscript, MSB had	
a real turkey on its hands. During May, wrote a	25 <b>X</b> 1
memo addressed jointly to who by then had	25X1
accepted the dubious honor of also chairing the KY pro-	
ject), and the "Editorial Staff," outlining how	25 <b>X</b> 1
MSB photo interpreters would continue to "pull together	
the many parts of the KY report," and how he,	25 <b>X</b> 1
would review the manuscript in detail, with a view to	
completing it by 31 May. He added that he and	25 <b>X</b> 1
together would then examine the manuscript in detail to	
assure that it was completely acceptable to before	25 <b>X</b> 1
forwarding it to the Editorial Staff, hopefully by	
15 June. 415/	

That these implied promises of early publication were premature was suggested by a lack of information on the same subject in subsequent MSB monthly reports. In reality, both manuscripts were casualties of attempts to ramrod materials not yet in finished form through to publication. These were also days when MSB was vigorously pursuing the concept that the most expeditious procedure for publishing reports was to limit the editors to a copy edit of text prepared by the PIs, and to foreclose

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possibility of more than very minor editorial changes
on illustrations prepared in the graphics shop. Indeed,
ordered that the graphics for both reports be 25X1
shot in final form in the lab prior to submission of
text to editors, and in at least one instance delivered
the graphics to the lab himself.
Even who was earnestly attempting to get 25X1
agreement on procedures for the handling of HTA projects,
got into the act. One day in March, he appeared unex-
pectedly in the room occupied by the two editors,
In his hands was a very large 25X1
envelope containing a jumble of graphics and text for the
projected Tyura Tam report. He announced that he would
soon call a meeting of MSB and graphics representatives
plus the editors. Interestingly, the nominal 25X1
chairman was not included. stated that he had 25X1
perused the manuscript and believed it was not fit to
edit. He requested that the editors examine it and be
prepared to offer testimony at the meeting. Then he left.
In due course the meeting was called and ap- 25X1
peared to chair it. Obviously, he was expecting strong
support from who was de facto head of the editorial 25X1
shop and already the object of much criticism by MSB
personnel as well as leaders in the graphics shop. To

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the surprise of and probably the MSB and graphics	25 <b>X</b>
representatives as well, refused to endorse	25 <b>X</b>
appraisal of the manuscript. On the contrary, he	25 <b>X</b>
adopted the position that anything sent to the editors	
was, ipso facto, fit to edit.	
This unexpected assertion, from which refused	25 <b>X</b>
to deviate during the course of an extremely unproductive	
discussion, gave him the conscious satisfaction of ad-	
hering to his principles under considerable pressure.	
Predictably, it won him no friends. To MSB supervisors,	
it was clear that was, in effect, telling them	25 <b>X</b>
that he was prepared to "worry through" the manuscript,	
aided by periodic consultations with the PIs, and that	
supervisors would not be encouraged to transgress on the	
confidences exchanged between an editor and his clients.	
To graphics representatives, it was evident that questions	
involving graphics would be settled in the bilateral	
negotiations between editor and photo interpreter, thus	
denying graphics personnel an active role in the final	
review of the manuscript. One could only speculate on the	
thoughts that coursed through mind as he found him-	25 <b>X</b> 1
self out on a limb in his attempt to establish more ef-	
fective procedures for assigning responsibilities in the	
processing of manuscripts for HTA reports. It would not	

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be unrealistic to assume they were unprintable. In	25 <b>X</b> 1
there were joined an unusually happy faculty for the	
evocation of vivid mental pictures and an exceedingly	
colorful vocabulary for describing them.*	
The TT manuscript came to life again in June 1958	
when the deputy in the	25 <b>X</b> 1
graphics shop, appeared at the entrance of the room oc-	
cupied by the editors. In a conversation that began in	
a cautious and diffident manner, they revealed the fact	
that a new attempt to prepare the manuscript for publica-	
tion was imminent. asserted that he was personally	25X1
taking charge of the effort and intended to rewrite the	
entire text, preferably with the guidance and counsel of	
an editor whom he would like assigned full time to the	
project for at least several weeks. expressed	25 <b>X</b> 1
a strong desire to have the graphics shop assume the	
* It should be noted that this was not the only such meeting chaired by On a number of other occasions within the next several months, would attempt to resolve publications problems by sitting down with representatives of the editorial shop, the graphics shop, and MSB. Moreover, when	25 <b>X</b> 1
first returned to the Steuart Building to function as a Special Assistant in the Office of the Chief, as the transfer to HTA of Central Branch personnel approached, his most important assignment was the solution of procedural and other problems relating to the publication of HTA reports. These negotiations were made difficult and progress was slow because of the maneuvering for political advantage of many of the participants. For the record, it should be	25X1
noted that did not shrink from a task that he almost certainly knew would be frustrating and, at time, humbling.	25X1

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responsibility for the preparation of the printed forms, which would consist of fully integrated text and graphics for the publication of a report in the new outsize format measuring 14 by 18 inches.

In the course of an amiable, if not animated, dis-
cussion expressed a preference for a report con-
sisting of separate text and graphics, but left the
question open. favored a fully integrated re-
port. The result of the exchange was the assignment of
to work with on the preparation and editing 25X
of a new text which was to be fully integrated with the
accompanying graphics. The text would be typed on the
Justowriter, which was still situated in the editorial
shop on the fifth floor, but would be composed in the
graphics shop on the sixth floor. Specifications for
reproduction would be prepared in the graphics shop.

Though there were as yet no firm guidelines issued for the preparation and publication of joint photographic intelligence reports in HTA, these ad hoc decisions provided a modus vivendi with which all participants could live. Though control of the project by MSB was substantially precluded as a result of assumption of full responsibility as project chairman, his substantive decisions in the preparation of the manuscript would have

25X1

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to survive the scrutiny of MSB photo interpreters at the time of sign off. For the editors, it placed one of their kind in a key position in the effort to prepare a new text. Though the arrangement fell short of affording the full measure of control envisaged by graphics supervisors in decisions involving the selection and planning of illustrations, exceptional grasp of the subject and how he wanted it presented, permitted them to use their expertise and imagination in developing his concepts and preparing them for the reader. This phase of the undertaking was directed by

25X1

25X1

This complete reworking of the Tyura Tam manuscript continued into August 1958. The result, published a month later, was a CIA/PIC showpiece comprising 51 pages of text and illustrations, the latter consisting of all types and sizes of graphics. Quite apart from the physical and substantive characteristics of the report, the procedures used and the energy and cooperation displayed in completing the job served, at least in some degree, as an object lesson in one way to produce an HTA photo intelligence report, particularly a large and complex one.

On the credit side of the ledger was, first of all, the dramatic demonstration of the advantage of having the total concept of the report as well as its substantive

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content under the firm direction of a highly competent photo interpreter. Such a situation energized the specialized talents of support personnel without providing a leadership vacuum into which all participants could rush to acquire the largest possible piece of the action. Less obviously on the credit side of the ledger was the carefully composed graphics and text, with the latter in columns justified on both the right- and left-hand margins. That such a physically attractive report served to excite favorable comment and reflect credit on the rapidly developing capability of a young organization fighting for its place in the sun cannot be doubted. From the beginning, however, many of those not emotionally involved in defending the course of development being set and advocated by the chief of the graphics shop and his deputy, doubted the wisdom of investing the manpower and machines needed to add the cosmetics. This question was to be a perennial one and reappears at frequent intervals in the future history of NPIC.

More obviously on the debit side of the ledger was the use of an editor in the preparation of the manuscript.

Unless it proved to be an exception, the full-time services of an editor for such a prolonged period as well as his almost total involvement in the preparation of the

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manuscript was difficult to justify. Not only did it virtually double the manpower needed to write the text but it also precluded the editor examining the completed manuscript with the detached view of an uninvolved critic. On the other hand, in this role the editor was able to offer valuable guidance and assistance in the preparation of the manuscript at a time when procedures were vague and no style manual for HTA publications was yet available.\* Moreover, it should be noted that such use of an editor effectively neutralized what was regarded, rightly or wrongly, by many -- but by no means all -- HTA photo interpreters as one of the most difficult obstacles in the publications process.

* As early as the summer of 1957 when editorial responsibilities and judgments first became controversial had directed to prepare a style manual. the senior editor, was on an extended vacation on the West Coast but returned in time to review the first draft be-	25X1 25X1
fore it was passed on to for review and coordination and comments from the branches. In those days, before the advent of the Xerox machine, no duplicate was made, and the sole copy mysteriously disappeared while in the process of coordination. It reappeared just as inexplicably nearly six months later when MSB was moving from the sixth to the seventh floor of Steuart Building. By that time, because of the rapidly evolving situation in HTA, the style manual was hopelessly out of date. Besides, few, with the	25X1
exception of and the author, had any urgent desire to	25X1
see it published. avowed position was to keep things as fluid as possible, a position shared by many in the graphics shop and MSB, who, however, had different objectives in mind.	25 <b>X</b> 1

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Progress on the Kapustin Yar manuscript was not revived at this time. In all probability there was a tacit recognition of the fact that any attempt to undertake the much larger task on the KY report concurrently with work on TT would inevitably fail, particularly with engaged full time on the TT manuscript. Moreover, it would divert manpower from other tasks sufficient to jeopardize the successful conclusion on ongoing activities.

25X1

25X1

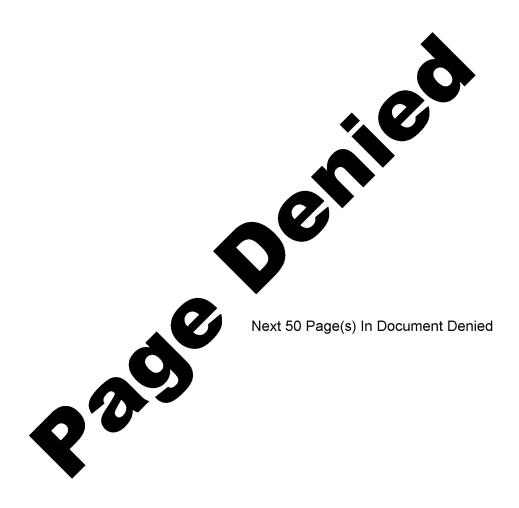
25X1

#### 3. The Show Goes On

While many photo interpreters and others in HTA were struggling with the preparation of PI reports and trying to develop workable procedures for producing them, Lundahl continued his seemingly unending schedule of high level briefings. Though many were reminiscent of the round of presentations to top military and civilian officials in Washington during the previous fall and winter,

round of presentations to top military and civilian of-	
ficials in Washington during the previous fall and winter,	
two were decidedly out of the ordinary.	

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#### B. Keeping Busy

Even in the Military-Scientific Branch, which had enjoyed a steady diet of JAM SESSION work for months, photo interpreters were not immune from more normal tasks. One of the more exciting among these -- and a task far more challenging than the humdrum activity in the Geographic Branch -- was the production of ODE's. Work on these first-phase reports on Russian penetration missions was always stimulating, since it offered an opportunity to see new targets and, perhaps, to discover others, like the Mozhaysk installation, whose existence was not even suspected.

The Far East mission, flown on 1 March 1958, afforded just such an opportunity. It covered the heart of the Soviet Far East, including cities and installations along the Trans-Siberian Railroad and the area around Sovetskaya Gavan, on the Gulf of Tartary. 446/

Most important and perplexing among discoveries from this mission was an installation, subsequently known as the Malaya Sazanka installation, located about 10 miles southwest of Svobodnyy and similar to those in the vicinity of Mozhaysk and Valday, in European Russia. As might be expected, this discovery rekindled flagging interest in the Mozhaysk problem. It did not, however, result in an

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immediate grandstand effort to publish a definitive report. Not only HTA but also other elements in the Agency and in the Intelligence Community were well aware of the difficulty they faced and the risk of disappointment. Though analysis of the photography was undertaken as soon as possible and the PI information made available to the Community, the overall effort to solve the intelligence problem was undertaken with caution and only after much consultation and planning. Consequently, the major portion of HTA work and the resulting detailed PI report were not available in published form until long after the end of the HTA period.

During the spring of 1958, ill effects suffered in the Geographic Branch during the winter as a result of the dearth of new requirements were substantially eliminated. The change resulted primarily from a dramatic increase in the amount of work for the Economic Research Area of ORR. From 26% of the project time in March, the comparable figure rose to 79% in May and held at 70% in the following month. There was also a modest but significant increase in the amount of time spent on DDP projects. 447/

Most of the increased work for DDP involved area studies in the Balkan States, near Murmansk, and around

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Tyura Tam. In April, requirements for information on installations reported in the Mission Coverage Summary for the 1 March 1958 Far East mission gave a significant boost to the amount of work undertaken for ORR, and a search for possible deployed offensive missile sites in the Soviet Bloc further augmented work done for the same Office.

The requirement for the missile search, in which
OSI was also interested, was generated by concern over the
total absence of such information in the face of conclusive
evidence of medium- to long-range missile development at
the Kapustin Yar and Tyura Tam Missile Test Centers. The
assignment of this task to the Geographic Branch, in spite
of the fact that PI expertise in the interpretation of
missile targets rested exclusively in the MilitaryScientific Branch, was a reflection of the fact that PIs
in the latter branch were busy with higher priority work.
Ostensibly, GB photo interpreters, upon discovering a
suspected missile site, would turn the evidence over to
the Military-Scientific Branch, where the information
would be examined, and if validated, published.

In due course, the search produced four sites suspected by Geographic Branch photo interpreters to be missile sites. The ones at Ventspils, USSR, and at

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Kolberg Deep and Bydgoszcz, Poland, were qualified as possible guided missile sites; the one on the Hel Peninsula, Poland, was alleged to be a probable guided missile site. 448/ The Geographic Branch, unmindful of the need to pass such discoveries on to the Military-Scientific Branch for validation, promptly prepared a brief on each of the sites. Immediately following publication of the briefs, which took place simultaneously, several intelligence officers,

25X1 25X1

came to the

Steuart Building -- to MSB, whose photo interpreters they assumed had prepared the briefs. When MSB interpreters told them that these were not guided missile sites but old gun positions identifiable on World War II German photography -- a source that PIs in the Geographic Branch had inexplicably failed to consult -- the visitors were very upset and expressed concern about the failure of HTA to speak authoritatively and with one voice. This was particularly true of the installation on the Hel peninsula, which had been called a probable guided missile site. Though swift and effective corrective action was taken by HTA to prevent any repetition of the same mistake by PIs working on this particular project, the continued existence of the two separate and equal detailed

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reporting divisions left the door open to future incidents of this type whenever there was overlap in their exploitation tasks.

First to suffer from this competition with higher priority projects in the Geographic Branch were the urban studies. The March monthly report from the Branch noted that work on the several urban studies was progressing slowly; the April report said that it had been temporarily suspended. 449/

There was one project concerning an urban area that was not deferred, however. The same April monthly report that a pilot study of Komsomolsk, which had been covered by the 1 March 1958 Far East mission, was in preparation for ORR. The purpose of the study was to determine the extent to which answers to questions on targets assigned to attaches could be obtained from TALENT system photography. The study was requested but

raphy. The study was requested	but 25X1
were said t	to be quite in- 25X1
terested in the results, which could dr	astically alter
the 450/	25 <b>X</b> 1

25X1

The project, which was established on 28 April 1958,
was assigned to of the Geographic Branch,
but involved close support from the Information Branch
of the OCR Statistical Division. Like most other projects

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in which Brugioni, chief of the Information Branch, served as a catalyst, progress on this one proceeded rapidly, and it was completed in exactly one week. 451/ The study, which examined the 39 requirements listed in the Town Brief, demonstrated that at least 35 could be answered better by the use of the existing TALENT photography than by an attache or traveler. 452/

At Lundahl's suggestion, conferred on

2 May 1958 with chief of the Geographic Research

Area, about city plan production. 453/ One result of this

conference was the assignment of of D/GC

to work in the Geographic Branch a few days each week on

city plans, with limited assistance from the PIs. 454/

This working arrangement continued through the summer.

Thus, the urban studies program, if it could be dignified

by such an appellation, became, at least as far as HTA

was concerned, merely an assist to an Agency cartographer

working on town plans.

25X1

25X1

25X1

The WAC overlay intelligence program\* suffered a similar fate. Work on this self-initiated project essentially ended by April. 455/ In this case, however,

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<sup>\*</sup> See p. 324.

the project was strictly one involving photo interpreters and the product a gratuitous offering. When the pressure of higher priority work increased to the point where no time was left for this project, there was no other competent or interested party to step in and take over any part of the program.

Elsewhere in HTA and at overseas photo interpretation centers, HTA PIs became involved in two historic crises.

One was the revolt in Indonesia, the other the threat to Lebanon by its Arab neighbors.

In the case of the Indonesian revolt, 29 U-2 missions were flown from Cubi Point Naval Air Station in the Philippine Islands between 29 March and 7 June 1958 to photograph targets spread over the far-flung Indonesian homeland. The purpose was to obtain timely information for the US Government and, in particular, for the DDP, which was providing operational support to the anti-Communist rebels.

In late March,	of 25X
HTA were sent to Clark Air Force Base, in t	the Philippine
Islands, to help establish a photo interpre	etation
facility. was to serve as deputy of	commander for 25X
intelligence and was to direct se	etting up of 25X1
the film processing equipment. 456/ Film 1	from the first

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mission and all subsequent ones was processed and ex-	
ploited at this facility, which was 30 minutes by air	
from Cubi Point. returned to HTA after com-	25X1
pleting his assignment, and was later relieved	25X1
by who departed Washington, D.C., on	25 <b>X</b> 1
15 May for the Philippines. 457/	
With the fall of the rebel capital at Bukittinggi,	
in Central Sumatra, on 4 May, the revolt was essentially	
over, and the United States withdrew its support of the	
rebel cause. On 9 June 1958, two days after the last	
U-2 mission was flown over Indonesia, the PI facility at	
Clark AFB was closed. 458/ returned to HTA	25 <b>X</b> 1
nine days later. 459/	
During late April and early May, when the revolt had	
reached a critical stage following the landing of amphib-	

During late April and early May, when the revolt had reached a critical stage following the landing of amphibious forces by the Indonesian Government on the west coast of Sumatra, crash support was provided at HTAUTOMAT for the faltering operation. Between 21 and 29 April three photo interpretation projects on Indonesian targets were done by the small group under in the Operations Support Branch. In addition, HTA prepared a photo mosaic of Djakarta. 460/

25X1

HTA photo interpretation support for the Lebanon crisis was confined largely to the Following widespread civil unrest in Lebanon during the late spring

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25 <b>X</b> 1
25X1
25 <b>X</b> 1
25 <b>X</b> 1
25 <b>X</b> 1
25 <b>X</b> 1
25X1
25X1

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arms and equipment, for signs of possible armed :	inter-	
vention. Activity continued into the fa	all,	25X1
but the complete withdrawal of US troops by late	October	
was quickly followed by the reversion	to a	25 <b>X</b> 1
standby status and the return of		25X1
to Washington. 463/		

25X1

#### C. Operating Procedures for HTA -- and PIC

The pangs of childbirth through which HTA was passing in the spring and early summer of 1958 resulted in a litter of procedural memorandums. As assumed the responsibilities of plant manager, he was obviously impressed by the need for establishing agreed-upon procedures for accomplishing the tasks of exploitation and reporting. The growing size of the organization and the division of labor that had taken place since the advent of HTA -- the handling of requirements and monitoring of production by the Support Staff, the utilization of collateral researchers, the development of a mensuration capability apart from the PI branches, the acquisition of editors, and the founding of a separate graphics shop -- created little fiefdoms that had to be bent to the task of getting out photo intelligence.

First to be issued, on 10 April 1958, were the "Procedures Governing the Establishment, Assignment,

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Progress Reporting and Final Disposition of HTAUTOMAT Projects." 464/ This paper was a significantly revised and coordinated version of the draft submitted by the 25X1 a few months earlier. 465/ Most of Support Staff 25X1 in his 24 February 1958 the objections raised by 25X1<sub>1</sub> favor. were resolved in the procedures provided that the Support Staff would consult with the appropriate branches in evaluating and accepting requirements, that the requirements would be assigned to the responsible PI branch promptly, and that certain steps in the handling and assignment of requirements could be waived. It tacitly left to the branches the ordering of TALENT System photography, the primary source of information for HTA photo interpreters. This memorandum, which emphasized the handling of requirements and projects as distinguished from the preparation of reports, left for a later memo answers to the thorny 25X1 to add his 14 suggested questions that prompted steps for preparing manuscripts for PI reports. 466/ The decisions on the latter points were included in the next memorandum, entitled "Procedures Governing the Preparation and Publication of HTAUTOMAT Photographic Intelligence Reports," issued near the end of May. 467/

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This memo placed the responsibility for producing

photographic intelligence squarely on the shoulders of the PI branch chiefs, though it permitted the delegation of exploitation work and the initiative in matters involving coordination of support to the photo analyst assigned to the project. It sorted out some of the problems involved in the preparation of PI publications by disposing in a summary manner of such relatively simple and highly formatted publications as the ODE, the Brief, the Mission Coverage Summary, and the Informal Report. It then addressed in detail problems and procedures involved in producing PI Memorandums, PI Reports, and Special Reports. These were the ones likely to involve use of much comparative photography, many collateral documents, substantial demands for mensuration support, numerous and complex graphics, considerable text, and trying editorial problems.

The successful coordination of this memo was given	25X1
a strong assist by the presence of who was re-	23/1
assigned from the Central Branch, of which he had been	
chief, to the office of the division Chief, where, as	
special assistant, he immediately began to work closely	
with to bring the coordination of this and subsequent	25X1
procedural papers to a speedy and successful conclusion.	
That conclusion incorporated many of the 14 steps advocated	

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25X1

but it also provides support elements with a strong voice in the planning and shaping up of the manuscript. For better or worse, it gave the graphics shop a powerful hand in the selection of graphics and in the layout of the report, but it involved the editors, as well as graphics personnel, repeatedly in all phases of reporting, from early planning to the final approval of the printed forms. It also introduced a final step, a coordinated examination of approval copies of the printed publication before release for dissemination. The procedures initially called for three approval copies, one for the office of the chief, HTA, one for the office of the chief of the originating branch, and one for the Support Staff, which included the editors. It was not long, however, before the Technical Intelligence Services Branch, which included the graphics shop, was also receiving a copy. Each of the pertinent components, PI branch, editorial section and graphics shop would examine the approval copy for items of particular concern to it and express approval or challenge dissemination of the publication. The final decision as to whether to release the publication or to revise it was up to the office of the Chief, HTAUTOMAT.

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The result of the adoption of these procedures was an improvement in the sense of direction and the harmony displayed in the production of HTA publications. Compared with a more straightforward assignment of responsibilities and an insistence on the satisfactory accomplishment of the assigned tasks by supervisors in each component, the price was fairly high. On paper, at least, the production of HTA memorandums, reports, and special reports thereby became a committee job. Fortunately, the procedural paper itself added a "note" authorizing arbitrary departures from the specified procedures on the authority of the chief of the PI branch assigned the project. escape clause provided a loophole that was used increasingly to avoid excessive coordination on the simpler projects. Even so, the committee approach still remained the recommended one and required considerable effort to follow the complexities of the system, particularly in projects handled by photo interpreters unable to exert firm control to bring the reporting phase of a project to a successful conclusion.\*

25X1

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<sup>\*</sup> In the wake of unsuccessful attempt to establish that the original Tyura Tam manuscript was not "fit to edit," this procedural paper stated that the "Editorial Section will promptly review all report texts and proof prints to determine (footnote continued on following page)

Though the aforementioned procedural memo ostensibly established procedures for handling HTA publications, it had no legal standing as a guide for the production of joint PI publications, of which there was an increasing number. As chief of the Military-Scientific Branch, under whose auspices virtually all CIA work on joint 25X1 had a special concern projects was accomplished, over the prospect of having to submit to the constraints of the newly formulated rules for handling CIA projects and preparing the resulting manuscripts while the production of joint publications with the military was not 25X1 concern was subject to comparable rules. amplified by the assumption of greater responsibility by the military shops in the supervision of joint projects

(footnote continued from preceding page) suitability to edit." It further required that, in cases where they were not suitable to edit, "particularly if major changes are considered warranted by the assigned editor," the manuscript, accompanied by explanatory comments, be forthe executive officer, HTAUTOMAT. warded to instinct for identifying a major problem was excellent, but his solution failed. It was obviously easier to reach some accommodation with those who were ultimately going to have to approve changes in the manuscript anyway than to face the disruptions in working relationships and inevitable retaliations that would result from charges that a manuscript was unfit to edit. The only workable solution to this problem was foreclosed by the failure of the PI branch chiefs, primarily the chief, MSB, to take effective action to ensure that only manuscripts meeting reasonable standards of acceptability for content and presentation be forwarded to the editors.

25X1

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for which their photo interpreters were named chairmen.	
As himself summed up the problem in a 7 May 1958	25X
memo to the attention of "The whole thing boils	25X
down to my omnipresent bitch that if we have an HTA	
organization functioning for the Agency, Army, Navy, Ops,	
ARC, etc with all concerned competing for the use of	
HTA personnel and equipment, it is imperative that all	
users function under the same rules, regulations, limi-	
tations, procedures, priorities call it what you	
may." 468/ Not only was concerned about the	25X
recently issued procedures for producing HTA publications,	
he was particularly upset by the independent demands	
levied by the military services on HTA support personnel	
and facilities without due regard for their effect on the	
amount of timeliness of service available for MSB projects.	
The third procedural memorandum, issued by HTA on	
3 June 1958, addressed itself to the problem of priorities	
and doubtlessly sought, among other objectives, to re-	
spond constructively to protest. 469/ It dele-	25 <b>X</b> 1
gated to the Suppprt Staff the authority to set the	
priorities and specified the basis for determining them.	
It further stated that all work done by HTAUTOMAT personnel	
would be scheduled in compliance with the priorities.	

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The memo then set forth and defined four levels of

priority, from Priority #1, which took precedence over all other work, to Priority #4, which included non-deadlined projects that were to be done only as time and current workload permitted.

In a closing paragraph having a somewhat philosophical orientation, the procedural memo explained that the priority system was not intended to put supervisors in a straightjacket, rather it was to be used judiciously in planning and directing work assignments. This recurring theme of exceptions with respect to the procedures that were being promulgated was variously interpreted by those affected as either an appreciation of the proposition that no rules would work without loopholes or as evidence that management was not prepared to enforce the rules in cases where supervisors might object strongly to complying with them. In general, those who dealt with the problem of priorities most successfully did so by making every effort to meet deadlines that were inflexible, then trying to complete enough of the remaining work in time to keep most of the customers happy, and avoiding, insofar as possible, never getting the lowest priority projects done.

Appropriately, the last procedural memorandums related to joint requirements and the establishment of

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joint projects on the one hand, and procedures to be followed by photo interpreters in preparing the resulting joint reports on the other. These two memorandums, which constituted an interdependent pair and were issued simultaneously on 15 July 1958, also anticipated establishment of the CIA Photographic Intelligence Center. Both used the name of the future organization and followed it with HTAUTOMAT in parentheses. Moreover, the memorandum on reporting procedures referred to the soon-to-be Data Management Division rather than the rapidly fading Statistical Division, OCR. Both included the US Air Force whenever specific names of the military services were mentioned, and there were four signature lines at the end of each memo, including one for the Military Liaison Officer, USAF. That the USAF was not to be so easily lured into the fold was clear, however, from the fact that the line for the Military Liasison Officer, USAF, was the only one on either memo without a signature.

To provide for the formulation of joint requirements and the establishment of joint projects, one of the procedural memorandums announced the establishment of the Photographic Intelligence Center (HTAUTOMAT) Joint Projects Requirements Committee. 470/ Membership consisted of one representative from the CIA Photographic

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Intelligence Center (HTAUTOMAT), the PIC (HTA) Military
Liaison Officer, USA, the PIC (HTA) Military Liaison
Officer, USN, and the PIC (HTA) Military Liaison Officer,
USAF. as chairman was responsible for committing
PIC (HTA) facilities needed for the accomplishment of
the work inherent in the joint projects established by
the committee. The CIA (HTA) representative served as
secretary for the committee and kept the minutes of each
meeting.

25X1

Requirements received by member organizations and judged to be of potential joint interest were registered with the secretary who made them available to representatives of the other organizations. Those of interest to two or more organizations were then discussed by the committee and a consolidated requirement prepared. This was followed by establishment of a joint project and the determination of a suitable priority. Joint projects were assigned by memorandum to the Senior Intelligence Officer (SIO) of the organization selected to chair the project — usually the one judged to have the primary interest in it. The SIO would then name as project chairman one of his photo interpreters, who would contact representatives of other participating organizations for their designation of members to the PI team. The SIO of

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the organization chairing the joint project was responsible for accomplishment of the work in accordance with the procedures specified in the procedural memorandum on the preparation and publication of joint reports.

The latter memorandum differed from the one issued on 28 May 1958 for the handling of HTA projects only by an adaption of the phrasing to recognize the several participating organizations and the joint nature of the work. Even the "note" to permit arbitrary departures from the details so elaborately spelled out -- this time on the authority of the responsible SIO -- was included. 471/

With the issuance of these two procedural memorandums, joint reporting was formalized and brought under substantially the same controls as other HTA activity.

Heretofore, the status of military participants had been somewhat vague and suggested the position of guests, who, though heartily welcomed, were, nevertheless, coequals with their Agency counterparts only with respect to the substance of joint PI publications. Now, with creation of the Joint Projects Requirements Committee and introduction of the concept of the Senior Intelligence Officer, military participants in HTA and PIC would also operate on equal footing with Agency personnel in the planning and supervision of joint photo interpretation work. On the other

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hand, in competition for limited Agency support		
facilities and manpower, they would be subject to the		
same constraints as their CIA counterparts. This was		
bound to reassure and assuage his fears of delays	25 <b>X</b> 1	
to CIA-chaired projects because of unbridled demands on		
HTA support components by the military.		

### D. Automated Mensuration -- with Bugs

The spring of 1958 was an exciting one for HTA photogrammetrists because they appeared to be on the threshold of a breakthrough in mensuration. One aspect of this breakthrough was the prospect of measuring in stereo -- i.e., with an instrument that made it possible to view the object being measured in three dimensions, thereby enhancing the probability of obtaining a more accurate measurement. The other was a further step in automating the mensuration process. At this particular point in history, late spring and summer of 1958, the latter was the more promising of the two efforts.

Measuring in stereo was to be accomplished on a Model TA-3 stereocomparator manufactured by the Ottico Meccanica Italiana in Rome (Figure 129). Headed by the former Italian Senator, Umberto Nistri, the company was one of those that had visited after the VIII

25X1

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International Congress of Photogrammetry, two years earlier. had become enthusiastic about the piece of equipment, then under development, and HTA had put in an order for the first instrument off the production line. It arrived in April 1958, and installation by company technicians was completed during May. 472/

25X1

Familiarly alluded to by HTA personnel as "the Nistri," this instrument provided readout of coordinates for points measured through use of an Olivetti typewriter that produced a paper tape. The tape was then used to feed the data to the ALWAC, which did computations and printed out the measurements on a Flexowriter. The operation of the Nistri was, therefore, not on line with the ALWAC, though the paper tape did eliminate manual recording of the coordinates and keyboarding of the data for entry into the computer.

The seeming simplicity of the foregoing system belied the all but insurmountable problems of operation. The very features that intrigued HTA managers made it a delicate and fussy instrument to use, particularly in the uncontrolled environment of the Steuart Building. An estimated 75% to 95% of all measurements were in error. Obvious errors were annoying and caused loss of valuable time, but subtle ones, not easily detected, were a

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potential source of embarrassment.

As if the malfunctions and need for constant and costly recalibration were not enough, the detrimental effects on the operator were even worse. Difficulties inherent in the manipulation of four different handwheels to orient the photographs so as to get and keep them in proper register for stereoviewing subjected the eyes of the operator to constant abuse, resulting in headaches and fatigue. It thus became necessary to limit duty at the instrument to no more than four hours per day per person — and there were few persons qualified as operators. 473/

To say that the instrument, which was designed primarily for photogrammetric triangulation in the compilation of maps, was a limited success in the production of photo intelligence would be an overstatement. Yet for a few years it was the only stereocomparator in the NPIC organization and was used in difficult assignments where the stereoviewing feature was deemed desirable to obtain the best possible measurements.

The further automation of the mensuration process that took place in the late spring and early summer of 1958 eliminated the manual recording of readings from the Mann Comparator by a second person, and supplanted

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the use of a desk calculator by the electronic wizardry of the computer. Key elements in the system were the Mann Comparator, a Telecordex, and the ALWAC. The Mann comparator had been previously acquired from the Navy and modified by the addition of magnetic readout heads. 474/ These heads, one for encoding data on the X-coordinate and another for data on the Y-coordinate, provided inputs for the Telecordex, which produced a paper tape. This tape was then loaded manually on the supervisory control Flexowriter attached to the ALWAC. Readout of the encoded data by this Flexowriter served as the input to the computer, which printed out the desired measurements.\*

on 26 May 1958. 475/ Steps to acquire it dated back to

July 1957 when had visited several firms in the

Los Angeles area in an attempt to find a means for micron

digitation of HTA comparator readout. Among companies

visited was the Telecomputing Corporation, where he found

the only suitable equipment, including magnetic readout

heads and the Telecordex. 476/

25X1

<sup>\*</sup> To HTA photogrammetrists this constituted automation of the mensuration process, a characterization that was certainly well merited. It is obvious, however, that this did not constitute on-line operation with the computer.

<sup>- 441 -</sup>SECRET

Use of this equipment promised to speed up the mensuration process and thus add to the computer workload. Moreover, acquisition of photographic coverage of Soviet Central Asia, where available maps were poor and inaccurate, begot requirements that called for attempts by HTA to undertake limited extension of geodetic control and bridging. These, too, taxed the existing computer capability. In choosing the ALWAC, however, 25X1 had regarded with favor the availability of additional peripheral equipment, and the fact that the capacity of the computer itself could be readily expanded should the need develop. Now it had, and HTA proposed to upgrade the capability of the ALWAC to handle a mass data reduction operation which would use a rather large number of programs.

The upgrading included purchase of a Ferranti high-speed photoelectric paper tape reader and a high-speed tape punch -- operating respectively at 20 and six times the speed of the existing equipment -- a second Flexowriter for off-line transcription of punched tape output, an increase in the memory capacity of the computer by replacing the 4,096-word drum with an 8,192-word drum, and the addition of a pre-select command to permit direct access to any of the individual sets of coordinates stored in the main memory. The latter feature was needed

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particularly in connection with geodetic control extension and bridging, operations that involved the internal storage of large numbers of point coordinates which the program called for in a non-serial manner.

Interchange of the drums and addition of the preselect command could both be accomplished as field changes on the existing equipment at the loss of from two-to-five weeks of computer down time. The manufacturer proposed however, an exchange of the memory and logic cabinets at a cost of several thousand dollars less than the field change.\* 477/ Since this alternative would also substantially eliminate the down time, it was the course of action chosen. The exchange of cabinets and installation of peripheral equipment were accomplished in May 1958. 479/ This dovetailed nicely with the arrival of the Telecordex in the same month.

The acquisition of the TA-3 stereocomparator, the receipt of the Telecordex -- which set the stage for the first automation of the mensuration process by a photo intelligence organization -- and the upgrading of the

<sup>\*</sup> One of the intriguing aspects of the ALWAC Corporation, which was already in financial difficulty and had merged with the El-Tronics Corporation by the time these modifications were proposed, 478/ was the relatively good equipment offered at a very competitive price -- perhaps too low to permit corporate survival.

ALWAC that contributed to proper functioning of this improved mensuration system once more demonstrated the vanguard position of HTA in the conception of a total system for the exploitation of high-resolution aerial photography, such as that in the TALENT system. It was also another example of the type of planning and procurement that kept rival organizations beating a path to the door of HTA to seek assistance in expanding their own exploitation capability.

The Strategic Air Command, probably the most aggressive and certainly the best financed among those pursuing the task of upgrading their exploitation capability, was one of those rivals that sought to benefit from the HTA research-and-development effort. In October 1957, at 25X1 an HTA team the urgent request of 25X1 had traveled to consisting of Lundahl Offutt Air Force Base at Omaha, Nebraska, to present to SAC personnel the HTA systems concept for the exploitation of aerial photography. The request for this briefing resulted from enthusiastic reports brought back to Offutt by SAC personnel who had visited the Steuart Building, where they had been exposed to HTA research-and-development concepts and some of the equipment already procured. 480/

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As a result of the series of October 1957 briefings at Offutt, eight SAC photo interpreters and photogrammetrists came to HTA for the month of May 1958 for indoctrination in the operation of photo lab and mensuration equipment, including the ALWAC. 481/ Unfortunately, they could scarcely have chosen a worse time to learn about the new mensuration equipment. The Nistri stereocomparator had just arrived and was being installed. The Telecordex didn't arrive until just before they departed. And, though the ALWAC had already been functioning for several months, it was in May 1958 that the exchange of the memory and logic cabinets and other modifications took place.

The two persons assigned to the photo lab, which was unaffected by the absence or arrival of new equipment, accomplished their goals. The others were not so lucky. 25X1 the ranking member of the group, observed that the SAC personnel had learned much but added they would like to return after a few months when the 25X1 functioning of the new equipment had stabilized. said that installation of the ALWAC that SAC had ordered was scheduled to be completed on 5 June, and that he and 25X1 would like to return later in the summer with a list of specific questions.\* He also 25X1 proved (footnote continued on next page)

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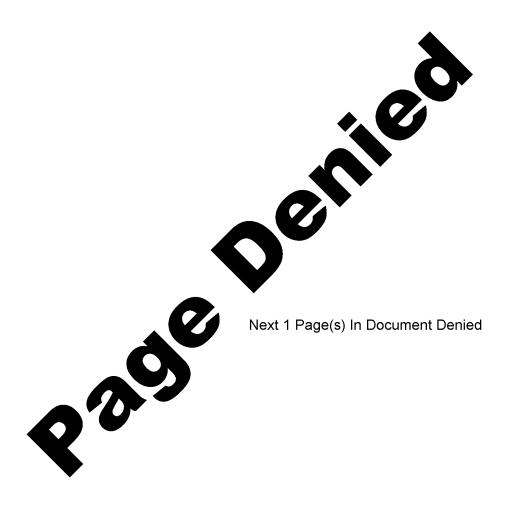
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expressed particular interest in learning more about the operation of the new mensuration equipment. 483/ In spite of this enthusiastic proposal, there was, however, no reprise.

25X1

(footnote continued from preceding page) to be an unforgettable character. He left a legacy of stories that were subjects of conversation years after he departed. One recounted how he and a couple of other master sergeants pulled into town, rented an apartment, proceeded to Bolling AFB where they conned the NCO Wives Club into providing them with pots, pans, and furniture and then went out and bought a television with the intent to default immediately on the payment. 482/

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	25X1
F. A Center at Last	
On 18 August 1958 the CIA Photographic Intelligence	
Center was finally established under the DDI. Arthur C.	
Lundahl was named director, was	25 <b>X</b> 1

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25X1 was appointed deputy director, and designated executive officer. At the same time, the Photo Intelligence Division, ORR, and the Statistical Branch [sic], OCR, were abolished. 491/ At last the long period of waiting was over. The organization for exploiting U-2 photography, which had been prematurely proposed as the Office of Statistical Research in December 1955, had finally achieved Office status. Though the organization thus created was almost identical with the one contemplated in Lundahl's 7 March 1958 memo to Amory, the grade structure was another matter.\* The table of organization approved by the DDS, 25X1 on 31 July 1958 omitted all grades. 25X1 the Director requested that Lundahl and of Personnel, discuss the proposed grade structure and report to him on or about 1 September. 492/ The reason for withholding approval of the grades 25X1 Director stemmed from the failure of of Personnel, to concur in the proposed grade structure

25X1

in which he

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for the new center. In his memo to

<sup>\*</sup> Minor alterations in the proposed organization included a change in title from "Security Office" to "Security Staff," elimination of a "Courier Section" in the Technical Branch of the Data Management Division, and several minor changes in job titles.

25X1

challenged the grades, made three major points. First, he denied approval of GS-15 grades for the positions of division chief. Second, he maintained that the center did not, as yet, have sufficiently experienced personnel to justify such positions for division chiefs or many key positions below that level. Third, he urged recruitment from the outside rather than what he characterized as hasty promotion from within to fill some of these key positions. 493/ Obviously, these were substantial matters and required some extended study and negotiations before the conflicting claims could be resolved. The grade structure would certainly be an early and important piece of business for the director of the newly established center and his executive officer.

Apart from the small cloud caused by the unresolved question of grades, there was much room for optimism over the prospects for the new organization. Much as it resembled the earlier HTAUTOMAT, there were significant differences, particularly when viewed in the perspective of future growth and development. No longer was there a question about the survival of the organization. Barring termination of the U-2 collection program and disastrous failure in the development of follow-on systems, photo interpretation in CIA in support of national intelligence objectives was here to stay.

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As far as relations with other components in CIA and the Intelligence Community were concerned, establishment of PIC was a boon. No longer would functioning and Guthe through channels require dealing with to reach the DDI -- at least in cases where courtesy and circumstances seemed to demand it. Ever since the creation of HTA, continued subordination of D/GP to the Geographic Research Area and ORR had seemed anachronistic, particularly since much of the activity in HTAUTOMAT transcended the purview of these two components. advantages of Office status were even greater with respect to rapidly expanding contacts between HTA/PIC and other organizations in the Intelligence Community. only did the creation of PIC provide considerably greater prestige, it also afforded more direct channels of communication and enhanced the rapidly developing national posture of the organization.

25X1

As the new center faced the future, the elimination of several past problems was offset, to some extent, by the survival of others that promised to grow. Most immediate among the latter was the need for some solution to the controversial question of how to staff and organize for the production of photo intelligence reports. The cumbersome procedures hammered out and approved in the

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spring of 1958 could scarcely eliminate the need for imaginative action to harness the editors and graphics personnel into a team for the smooth and effective publication of photo intelligence.

The perpetuation of two PI divisions in the new organization was of doubtful wisdom, but need for a tough decision on this matter was less urgent. Nevertheless, the dramatic successes of photo interpreters in the Military-Scientific Division stood in ever sharper contrast to the World War II-type accomplishments of the Industrial-Geographic Division. Moreover, the thrust of the work in the Military-Scientific Division was inexorably staking out the territory that the new PIC would inevitably claim as its domain. By now it was reasonably clear that it was in this area of highest-priority military and scientific targets that the real future of the organization lay. If neither the sheer ennui of "documenting" endless industrial plants or rail yards nor an open revolt of disadvantaged IGD photo interpreters precipitated a crisis, if flaps like the one over the coastal defense site on the Hel Peninsula didn't embarrass PIC into further action, some day a critical need to marshal all available PI manpower to fill requirements for photo intelligence on missile, nuclear, and BW/CW

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targets promised to bring all PIC photo interpreters into one division, under one management to pursue work on photography covering these types of installations.

In the summer of 1958 there were also faint stirrings of further problems in the management of the R&D effort. Until now, DDP/TSS had provided much support and some funding in the development and in the procurement of equipment for HTA. Now, with the achievement of Office status and with the need to develop much more sophisticated exploitation and data handling equipment for even more exotic inputs from collection systems already under development, PIC was thinking in terms of a more selfcontained R&D effort. Such a course of action not only promised to be less confining and more responsive to PIC, it also offered a better opportunity to keep the equipment purchased or developed under control of those who would use it. That Lundahl was cognizant of the danger that PIC might even lose ground in the competition to control this effort, which would be of critical importance in determining the future exploitation capability of the center, was suggested in a memo to Bissell in which he stated, apropos of the oncoming W117L system, ". . . there may be need of some discussion and agreement as to just what role or authority TSS might have in accepting,

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monitoring, and approving contracts related to Photographic Data Extraction Systems and particularly information handling as a corollary of internal management of HTA [sic]. I am sure that this can be worked out with TSS representatives but I must state that I would be reluctant to accept any plan whereby my highly qualified R&D specialists in photographic intelligence, and in day to day working contact with the problems and achievements at HTA, would be eliminated from contacts with industrial representatives and the right to participate in preparation of requirements and the review and acceptance of proposals." 494/

Concern over R&D matters was a very real problem for the new center, particularly in view of the prospect of future large inputs of photography that was certain, in the long run, also to improve in resolution. It was, however, also certain to lead the center into dangerous waters. Research and development were bound to be expensive and, at times, disappointing. They were, moreover, not central to the job of PIC, which was the exploitation of photography. It could easily become a case of being damned if you do and damned if you don't. Whatever the risk, HTAUTOMAT and the new center were showing signs of wanting to try it.

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Lest it seem that emerging long-range problems, so easy to identify with the benefit of hindsight, cast a pall over PIC when the mood should have been one of rejoicing, assurance should be given that this was not the case. Even the near-term problem of grades could be regarded philosophically. There was no great problem of headroom in the new center. The newly named but familiar Director and his people stood high in the esteem of senior managers in the Agency and among leaders elsewhere in the Intelligence Community, as well as in key sectors of the scientific and industrial world. They had finally achieved the organizational status they sought and which they felt confident would provide the opportunity they required to attain even higher levels of achievement. With further development of the capabilities of those in the center and a continuation of the dedicated and imaginative work that had become the hallmark of the organization, the rest should take care of itself. It would not be unrealistic to suppose that, on 18 August 1958, from where Lundahl sat "he looked at what he and his people had wrought and pronounced it good."

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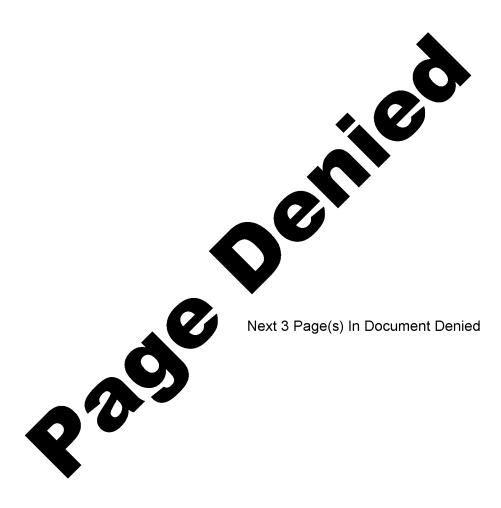
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### Appendix B

### Chronology: 1956 - 1958

<u>1956</u>	
9 Jul	HTA initiates operations in the Steuart Building.
10 Jul	Date of the last Russian penetration missions before the initial stand-down.
2 Aug	Lundahl returns to duty in Washington after attending the VIII International Congress of Photogrammetry, Stockholm, Sweden.
29 Aug	First U-2 mission over the Middle East.
7 Sep	Reber and Lundahl deliver first U-2 photography to the British.
7 Sep	HTA issues a PI Alert on the Mozhaysk installation.

25X1

12	Sep	Intelligence Advisory Committee creates the PARAMOUNT Committee.
13	Sep	First Middle East mission flown from new base at Adana, Turkey.
29	Oct	Outbreak of hostilities in Middle East.
7	Nov	Ceasefire in Middle East.

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195	(cont.)		
13	Nov	Intelligence Advisory Committee deactivates the PARAMOUNT Committee.	
19	Nov	Decision to establish an overseas PI center on the base	25 <b>X</b> 1
4	Dec	Date of Mission B-1344; photography first processed and exploited	25X1
12	Dec	Date of issue of the first of two HTA publications on special weapons storage and loading facilities at Soviet long-range airfields.	
1957			
29	Jan	depart Washington, D.C., for Eglin AFB, Florida, for tests on the Project OSTIARY camera system.	25X1
1	Feb	Lundahl calls for a revision of the mission and functions and a reorganization of HTA.	
7	Mar [	Consultant meeting at Headquarters on the problem.	25 <b>X</b> 1
3	Apr	leave on first extended on-site trip to US missile and nuclear installations.	25X1
15	Jul	HTA graphics shop begins operation.	
25	Jul	HTA recommends use of A-2 camera for SOFT TOUCH missions.	-
26	Jul	announces completion of reassignment of HTA personnel in connection with the organizational realignment.	25 <b>X</b> 1
5	Aug	First of the SOFT TOUCH missions flown from Pakistan.	
8	Aug	Reduction of 20 positions announced 12 in the ORR division and eight in OCR branch.	

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195	7 (cont.)		
	Aug	Joint Army-Navy-CIA-Air Force first-phase exploitation of photography initiated at HTA.	
17	Sep	ALWAC III-E computer delivered to Steuart Building.	
23	Sep	Project JAM SESSION instituted at HTA.	
30	Sep	relieved of his duties as chief of the former Special Projects Branch.	25 <b>X</b> 1
8 <b>-</b> 9	Oct	Consultations at HTA on the gaseous diffusion plant,	25 <b>X</b> 1
22 <sup>.</sup> 23	- Oct	Consultations at HTA on the reactor area and the chemical separation plant under construction,	25X1
4	Nov	GMIC Special Engineering Analysis Group starts work at HTA.	
15	Nov	OCR designates the Statistical Branch, SR, the Statistical Division, OCR.	
16	Nov	Lundahl and Gardner depart for give briefings on information from SOFT TOUCH missions.	25 <b>X</b> 1
27	Nov	Report on findings of the GMIC Special Engineering Analysis Group published by HTA.	
2 <del>-</del> 5	Dec	GMIC Scientific Advisory Panel meeting at HTA.	
2	Dec	Allen Dulles makes first and only visit to HTA.	
2	Dec		25 <b>X</b> 1
13 14	Dec		25X1
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1957 (cont.)		
16 Dec	Lundahl briefs Vice President Nixon on a wide range of U-2 photography in the DCI conference room.	
23 Dec	Lundahl briefs Kelly Johnson, designer of U-2, on some of the photographic accomplishments of the U-2 collection system.	-
1958		
3 Jan	Announcement of DCI approval for an increase of 35 slots in the combined ORR-OCR HTAUTOMAT Table of Organization.	
31 Jan	Military-Scientific and Operations Support Branches exchange work areas, with MSB moving to the seventh floor and OSB to the sixth.	
Feb	Minicard equipment finally arrives at HTA.	
24- 25 Feb		25 <b>X</b> 1
23 Teb		20/1
7 Mar	Proposal to create the CIA Photographic Intelligence Center forwarded to DDI.	
14 Mar		25 <b>X</b> 1
16 Mar		
Mar	for Clark AFB, Philippine Islands, to establish a film processing and interpretation center for U-2 missions over Indonesia.	25X1

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1958 (cont.)		
10 Apr	First of several procedural memos issued for use in guiding internal HTA operations.	
Apr	Model TA-3 stereocomparator (the "Nistri") delivered to HTA.	
May	Capability of the ALWAC III-E upgraded.	
26 May	Telecordex delivered to HTA.	
2- 3 Jun	Consultations at HTA on the Soviet heavy water plants	25 <b>X</b> 1
9- 13 Jun	Consultations at HTA on Soviet uranium mining and milling sites.	05.74
16 Jun		25X1
22 Jun		
ll Jul		
18 Aug	Establishment of the CIA Photographic In- telligence Center announced.	

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104.	ORR/GP/SPB Monthly Time Distribution Record, Sep 56. No classification. ORR/GP/SPB Monthly Time Distribution Record, Oct 56, p. 3. No classification. ORR/GP/SPB Monthly Time Distribution Record, Nov 56, p. 5.	
105.	Monthly Report of the Geographic Branch, Oct 56, p. 2. No classification.	
106.	Monthly Report of the Geographic Branch, Nov 56, p. 2. S CODEWORD CIA IUO.	
107.	Monthly Reports of the Industrial Branch, Oct and Nov 56, p. 1. TS CODEWORD.	
108.	See reference 91, above.	
109.	Ibid.	
110.		25X1
111.	See reference 78, above, p. 9.	
112.	See reference 91, above, p. 2.	
113.	CIA/HTA I-A3, 7 Sep 56, Possible Nuclear Reactors Under Construction. TS CODEWORD.	
114.	CIA/HTA I-A6, 21 Sep 56, Probably Missile Site and/or Test Installation. TS CODEWORD.	
115.	Memo, for Lundahl, 16 Feb 56, sub: Conference with Members of DDP on Camera Capabilities.	25X1
116.	ORR/GP GP/I-159, 29 Feb 56, Camera Recommendations.	
117.	Memo, for Lundahl, 30 Mar 56, sub: Trip to Fairchild Camera and Instrument Corporation, Long Island, N.Y., 27 Mar 56.	25X1
118.	Memo, for Lundahl, 11 Jun 56, sub: Report of Accomplishments During Trip to Long Island, N.Y.,	25 <b>X</b> 1
	and Los Angeles, Cal. S EYES ONLY.  Memo, 21 Sep 56, sub: Travel to	25 <b>X</b> 1

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119.	Memo, 12 Oct 56, sub: Accomplish- ments at Syosset, Long Island, Contractor's Plant. S EYES ONLY.	25X1
	Memo, 31 Oct 56, sub: Report on Trip to New York to Inspect Photographic Equipment during Acceptance Tests.	25 <b>X</b> 1
120.	Memo, 6 Dec 56, sub: Report on Trip to Air Proving Ground, Eglin AFB, Florida. S EYES ONLY.	25X1
121.	Memo, Lundahl 27 Sep 56, sub: Technical Intelligence Branch's Computational Requirements.	25 <b>X</b> 1
	Memo, for Bissell, 25 Sep 56, sub: Observations Concerning Possible Solutions to Extensive Computational Requirements.	25X1
122.	Memo, for Bissell, 25 Sep 56, sub: Observations Concerning Possible Solutions to Extensive Computational Requirements.	25 <b>X</b> 1
123.	Ibid.	
124.	Interview, with author, 20 Jul 71, p. 3. TS CODEWORD.	25X1
125.	Monthly Reports of the Technical Intelligence Branch, Oct 56, p. 2; Nov 56, p. 2; Dec 56, p. 2. TS CODEWORD.	
126.	See reference 124, above.	
127.	Memo, for Chief ST/A/RR, 1 Nov 56, sub: Request for Photo Intelligence Training.	25X1
128.	Monthly Report of the Special Projects Branch, Nov 56, p. 2. S CODEWORD.  Monthly Report of the Geographic Branch, Nov 56, p. 2. S CODEWORD CIA IUO.	
129.	Monthly Report of the Photo Intelligence Division, Oct 56, p. 2.	
130.	Monthly Report of the Photo Intelligence Division, Dec 56, p. 2.	

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131.	NPIC Field Operations (First draft). TS Working Paper.	25X1
132.	Letter, for Lundahl, 8 Feb 57. U.	25 <b>X</b> 1
133.	See reference 131, above.	
134.	Letter, for Lundahl, 29 Jan 57. TS.	25 <b>X</b> 1
135.	CIA/NPIC Mission Folder, B 4016, 20 Nov 56, filed in Production Services Group, NPIC. TS CODEWORD.	
136.	CIA/HTA R3-57, 16 Sep 57, Ammunition or Unidentified Storage Installations in the Soviet Bloc Having Maximum Security and Blast Protection, p. 9. TS CODEWORD.	
137.	Interview, with author, 27 Jul 71, p. 6. TS CODEWORD. Monthly Report of the Special Projects Branch, Dec 56, p. 1. No classification.	25X1
138.	See reference 136, above, pp. 6, 8.	
139.	Monthly Report of the Special Projects Branch, Dec 56, p. 1. No classification.	
140.	Ibid.	
141.	HTA/SPB Monthly Time Distribution Report, Dec 56, No classification; Jan 57, No classification; Feb 57, TS CODEWORD; and Mar 57.	
142.	CIA/HTA M 10-56, 12 Dec 56, Probable Special Weapons Storage and Loading Installation. TS CODEWORD.	
143.	CIA/HTA M 1-57, 28 Feb 57, Special Weapons Loading and Storage Installations (Stryy Type). TS CODEWORD.	
144.	CIA/HTA R1-57, Jan 57, Unidentified Soviet Construction Project Near Mozhaysk, USSR. TS CODEWORD.	
145.	See reference 37, above, p. 3.	
146.	Memo, for Members of the Utilization Advisory Board, 18 Jan 57, sub: Outside Consultation on HTAUTOMAT Problems. S CODEWORD.	25X1

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147.	Mozhaysk Folder No. 2, "Mozhaysk Chronology," n.d., p. 4. TS CODEWORD.  Mozhaysk Folder No. 1, "RADM Rickover's Comments Concerning the Unidentified Installation at Mozhaysk." TS CODEWORD.  Summary of Mozhaysk Briefing for UCRL, 15 Jan 57. TS CODEWORD.  Notes from Briefing of Dr. Edward Teller and Dr. Mark Miles by USAF Collection Division Team, n.d.	25 <b>X</b> 1
	TS CODEWORD.  Notes from Briefing of by USAF  Collection Division Team, n.d. TS CODEWORD.  Notes from Briefing of Dr. Werner von Braun by  Members of the Special Developments Branch, n.d.	25X1
	TS CODEWORD.  Memo, for TALENT Control Officer, CIA,  sub: Comments of  on the Mozhaysk Site, 12 Feb 57. TS CODEWORD.	25X1 25X1
148.	See reference 37, above, p. 4.	
149.	CIA/HTA Consultants Handbook: Unidentified Construction Project Near Mozhaysk, USSR. TS.	
150.	See reference 144, above.	
151.	Monthly Report of the Industrial Branch, Jan 57, p. 1. TS CODEWORD CIA IUO.	
152.	Monthly Report of the Technical Intelligence Branch, Jan 57, p. 1. S CODEWORD.	
153.	GMIC-JAEIC Joint GMIC/JAEIC Preliminary Assessment of the Mozhaysk Site, 29 Jan 57, TS CODEWORD.	25X1
154.	Ibid.	
155.	Mozhavsk Folder No. 2, "Wintertime Coverage of the Mozhavsk Construction Complex," 24 Jan 57, TS CODEWORD.	25X1 25X1
156.	Ibid.	
157.	Memo, for (list of prospective consultants), sub: Conference of 7 Mar 57.	25X1
158.	Memo, for Bissell. sub: Conclusions of Consultant Panel, 12 Mar 57, TS CODEWORD.	25X1 25X1

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159.	Agenda for Consultant Meeting in DCI Conference Room, 7 Mar 57.	
160.	Interview, Arthur C. Lundahl with author, 16 Nov 71, pp. 7, 8. TS CODEWORD.	
161.	Interview, with author, Jul 71. (No written record.)	25X1
162.	Memo, for Chairman, Intelligence Advisory Committee, sub: Consultant Panel Meeting, 22 Mar TS CODEWORD.	25X1
	57, TS CODEWORD.	25 <b>X</b> 1
163.	Memo for the Record, 10 Feb 59, sub: Report by on the Functions of the Installations at Malaya Sazanka, Mozhaysk, Valday, Ugolniye Kopi and Olenya. TS CODEWORD.	25 <b>X</b> 1
164.	See reference 118, 119, 120, above.	
165.	Memo, Guthe for Chief, Psychological and Paramilitary Staff/DDP, 17 Jan 57, sub: Participation in Project	25 <b>X</b> 1
166.	Memo, , O/Ch/G, 4 Feb 57, sub: Expenses and Itinerary of Trip to Eglin Field,	25 <b>X</b> 1
	Memo, , O/Ch/G, 4 Feb 57, sub: Expenses and Itinerary of Trip to Eglin AFB,	25X1
	Florida.  Memo, , O/Ch/G, 18 Feb 57, sub: Expenses and Itinerary of Trip to Eglin AFB,	25 <b>X</b> 1
	Florida.  Memo, , O/Ch/G, 18 Feb 57, sub: Expenses and Itinerary of Trip to Eglin AFB,	25X1
	Florida.  Memo, O/Ch/G, 19 Feb 57, sub: Expenses and Itinerary of Trip to Eglin AFB,	25X1
	Florida.  Memo, O/Ch/G, ll Mar 57, sub: Expenses and Itinerary of Trip to Eglin AFB,	25X1
	Florida.  Memo, O/Ch/G, 11 Mar 57,	25 <b>X</b> 1
	sub: Expenses and Itinerary of Trip to Eglin, AFB.  Memo, O/Ch/G, 12 Mar 57,  sub: Expenses and Itinerary of Trip to Eglin AFB,  Florida.	25X1

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	Memo, , O/Ch/G, 1 Apr 57, sub: Expenses and Itinerary of Trip to Eglin AFB, Florida.	25X1
	Memo, O/Ch/G, 3 Apr 57, sub: Expenses and Itinerary of Trip to Eglin AFB, Florida.	25 <b>X</b> 1
167.	Interview, with author, 20 Jul 71, p. 1. TS.	25X1
168.	See reference 46, above, pp. 14, 15.	
169.	See reference 46, above, pp. 17, 18.	
170.	See reference 25, above, pp. llff.	
171.	Memo, Reber for Bissell, 27 Mar 57, sub: Highest and High Priority Targets for Western USSR, the Far East, and European Satellites. S CODEWORD.	
172.	Minutes of the HTA Staff Meeting, 1 Feb 57, p. 2.	
173.	Memo, for Lundahl, 15 Aug 56, sub: Field Inspection of Nuclear Energy Installations.	25 <b>X</b> 1
174.	Memo, 24 Apr 57, sub: Report of Trip to Guided Missile and Atomic Energy Installations. S CODEWORD.	25X1
175.	Memo, 29 Jul 57, sub: Report of Field Trip to Guided Missile Facilities. S CODEWORD.	25 <b>X</b> 1
176.	Monthly Report for the Photo Intelligence Division, May 57, p. 3.	
177.	Monthly Report for the Photo Intelligence Division, Jul 57, p. 3.	
178.	See reference 176, above.	
179.	Monthly Report for the Photo Intelligence Division, Jun 57, p. 3.	
180.	Monthly Report for the Special Projects Branch, Jul 57. Monthly Report for the Technical Intelligence Branch, Jul 57, p. 2.	

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- 181. Monthly Report for the Photo Intelligence Division, Mar 57, p. 3.
- 182. See reference 176, above.
- 183. Monthly Report for the Photo Intelligence Division, Apr 57, p. 3.

  See reference 176, above.

  Monthly Report for the Special Projects Branch, Jun 57.
- 184. See reference 179, above.
- 185. Minutes of the Geographic Research Area Staff Meeting, 13 May 57.
- 186. Monthly Report for the Photo Intelligence Division, Aug 57, p. 2.
- 187. See reference 177, above, p. 2.
- 188. See reference 185, above.
- 189. Monthly Report for the Photo Intelligence Division, Apr 57, p. 2.

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  See reference 179, above, p. 2.

  See reference 177, above, p. 2.
- 190. Monthly Report for the Photo Intelligence Division, Apr 57, p. 2.
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- 191. See reference 167, above, p. 4.
- 192. Memo, 10 Jun 57, sub: Status 25X1 Report for the Statistical Branch, May 57. S CODEWORD.
- 193. "A New Team of Projection Printers 25X1 for Rectifying 9-Inch by 18-Inch High Tilt Photography," Photogrammetric Engineering, Vol. XXIII, No. 1, Mar 57, pp. 157-161. U.

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- 194. See reference 124, above, p. 5.
- 195. Memo, Lundahl for 16 May 57, sub: Justification for Alwac III-E Electronic Computer. EYES ONLY.

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- 197. See reference 124, above, p. 5.
- 198. See reference 195, above.
- 199. See reference 124, above, pp. 4, 5.
- 200. Memo, , 6 May 57, sub: Mini-card Tests.

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- 202. See reference 137, above, pp. 4, 5.
- 203. Memo, Lundahl for Deputy Chief, OCR/SR, 6 May 57, sub: Assistance in Development of Stereoscopic Scanner for Aerial Film. C.
- 204. Monthly Report of the Support Staff, Jun 57, p. 1. S CODEWORD.
- 205. Monthly Report of the Support Staff, Jul 57, p. 1. S CODEWORD.
- 206. Monthly Reports of the Industrial Branch, Feb 57 and Apr 57. TS CODEWORD CIA IUO.
- 207. Monthly Reports of the Geographic Branch, Apr 57 and Jun 57, p. 2. S CODEWORD CIA IUO.
- 208. Monthly Report of the Industrial Branch, Jul 57, p. 1. TS CODEWORD CIA IUO.
- 209. Monthly Report of the Geographic Branch, Jul 57, p. 2. S CODEWORD CIA IUO.
- 210. See reference 207, above.
- 211. See reference 209, above.
- 212. Monthly Report of the Support Staff, Jun 57, p. 2. S CODEWORD.
- 213. Monthly Report of the Industrial Branch, May 57, p. 2. TS CODEWORD.

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214.	Monthly Report of the Industrial Branch, Jun 57, p. 2. TS CODEWORD CIA IUO.	
215.	Memo, for AD/OSI, 21 May 57, sub: Comments Concerning the ATIC Report Titled "A Theory on the Identity of the Mozhaysk Installation" May 1957,	25X1
	TS CODEWORD.	25 <b>X</b> 1
216.	Ibid.	
217.	Memo, for Lundahl, 20 Jun 57, sub: Ramo- Wooldridge Studies. S CIA IUO.	25 <b>X</b> 1
218.	See reference 208, above, p. 2.	
219.	CIA/HTA M-13-57, 29 Apr 57, Probable Missile Launching Installation Near Balaklava, USSR. TS CODEWORD. CIA/HTA I-A6, 21 Sep 56, Probable Missile Site and/or Test Installation. TS CODEWORD.	
220.	CIA/HTA M-35-57, 18 Sep 57, Unidentified Installation Near Karangit, USSR. TS CODEWORD.	
221.	John D. Morris. "President Signs Mideast Doctrine," New York Times, 10 Mar 57, p. 1. U.	
222.	Monthly Report of the Special Projects Branch, June 57.	
223.	Memo, Reber for Bissell, 13 May 57, sub: Comparative Film Processing Study, TS CODEWORD.	25 <b>X</b> 1
224.	Memo, Bissell for Reber, 28 Jun 57, sub: Review of the Necessity for Continuation of Eastman Kodak	
	Processing in Whole or in Part, TS CODEWORD.	25 <b>X</b> 1
225.	Memo for the record, 25 Jul 57, sub: Visit to Eastman on 24 Jul 57, SAPC-17907.	
226.	Memo for Project Director of Operations, 25 Jul 57, sub: Use of A-2 or B Configuration, HTA/OC 67-57.	25X1
227.	Minutes of the Ad Hoc Requirements Committee, 16 Aug 57, (ARC-M-49). TS CODEWORD.	25X1

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228.	Memo, Lundahl 21 May 54, sub: Papers Suggesting Idealizations and Difficulties of the Present U.S. Photographic Intelligence System.	25 <b>X</b> 1
229.	Memo, Lundahl 25 Sep 54, sub: Desirability of Establishing a Sub-Committee on Pho-	25 <b>X</b> 1
	tographic Intelligence at the IAC Level, TS.	25 <b>X</b> 1
230	Memo.	25X1
	ORR's Coordinating Responsibilities. S CIA IUO.	25 <b>X</b> 1
231.	Ibid.	
232.	Memo, Reber for 23 Apr 57, sub: HTA and Mr. Arthur C. Lundahl, ER-9-2794.	25 <b>X</b> 1
233.	Memo, Lundahl 3 Jul 57, sub: Briefing	25 <b>X</b> 1
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234.	Memo, 10 Jul 57, sub: Status Report for the Statistical Branch - June 1957. S CODEWORD.	25 <b>X</b> 1
235.	See reference 172, above.	
236.	Memo, for Lundahl, 28 Jun 57, sub: Branch Reorganization Plan. No classification.	25 <b>X</b> 1
237.	Memo, for Lundahl, Stallings, 24 Jun 57, sub: Estimated Personnel Requirements for Sov Bloc Branch.	25X1
238.	Memo, for Lundahl, 21 Jun 57, sub: Sug- gestions Concerning Reorganization. S CIA IUO.	25 <b>X</b> 1
239.	Monthly Report of the Industrial Branch, Jun 57, p. 1. TS CODEWORD CIA IUO.	
240.	See reference 238, above.	
241.	Ibid.	
242.	Memo, 28 Jun 57, sub: HTAUTOMAT	25X1
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- 246. See reference 209, above.
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- 248. CIA/NPIC Mission Folders for:
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  - B 4039, 12 Aug 57
  - B 4045, 21 Aug 57
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- 252. Ibid.
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- 256. Monthly Report of the Geographic Branch, Dec 57, p. 2. S CODEWORD CIA IUO.
- 257. Monthly Report of the Geographic Branch, Jan 58, p. 2. S CODEWORD CIA IUO.
- 258. Monthly Report of the Geographic Branch, Jul 57, p. 2. S CODEWORD CIA IUO.

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- 259. See reference 244, above.
- 260. Memo, for AD/OCR, 13 Sep 57, sub: Status 25X1
  Report for the Statistical Branch Aug 57, pp. 1,
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- 262. Monthly Report of the Support Staff, Aug 57, p. 2. No classification.
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- 266. Monthly Report of the Technical Intelligence (Services) Branch, Aug 57. TS CODEWORD.
- 267. Memo, for AD/OCR, 8 Oct 57, sub: Status Report for the Statistical Branch Sep 57, p. 4. S CODEWORD.
- 268. Minutes of the HTA Staff Meeting, 6 Sep 57, p. 1.
- 269. Interview, Arthur C. Lundahl with author, 16 May 71, pp. 7ff. TS CODEWORD.

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286.	Memo, , 12 Aug 57, sub: Report of Trip to Hycon Manufacturing Co., Telecomputing Corp., Chicago Aerial Industries, and Acme Teletronix,	25X1
	Inc., (HTA-OC-71-57). S CODEWORD.	25 <b>X</b> 1
287.	See reference 283, above.	
288.	See reference 268, above.	
289.	See reference 283, above.	
290.	Memo, Lundahl for all Branch Chiefs, 29 Aug 57, sub: Weekly Status Report. C.	
291.	Memo, Lundahl for 28 Oct 57, sub: Request for Personnel Ceiling Increase.	25 <b>X</b> 1
292.	See reference 263, above, p. 4.	
293.	See reference 14, above, p. 10.	
294.	See reference 291, above.	
295.	See reference 263, above, p. 4.	
296.	Memo, for Acting DD/Intelligence, 10 Aug 53, sub: Organizational and Production Problems Resulting from Personnel Ceiling of 890 for ORR.	25 <b>X</b> 1
	Memo, for Area Chiefs and OAD Staff Chiefs, 22 Aug 55, sub: Reduction in Personnel Ceiling for Fiscal Year 1956.	25 <b>X</b> 1
297.	Monthly Report of the Military-Scientific Branch, Sep 57, p. 1. TS CODEWORD.	
298.	HTA/MSB Attachment to Notice No. 2, 25 Sep 57. TS CODEWORD.	
299.	See reference 297, above.	
300.	Memo, Lundahl for Principals of Operation JAM SES- SION, 24 Sep 57, sub: Working and Consultation Time Schedule Operation JAM SESSION. TS CODEWORD.	
301.	Monthly Report of the Military-Scientific Branch, Oct 57, p. 1. S CIA IUO.	

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302.	CIA Atomic Energy Activities at Berezki, North of Tomsk in Mid-Siberia, Draft 1, pp. 21-22, 21 Sep 59, TS CODEWORD.	25X1
303.	CIA/HTA JR-1-58, 28 Feb 58, Tomsk Atomic Energy Installation. TS CODEWORD.	
304.	Memo, [sic] for AD/OCR, 19 Nov 57, sub: Status Report for the Statistical Division [sic], October 1957, p. 2. TS CODEWORD.	25X1
305.	"Text of Satellite Report," New York Times, 5 Oct 57, p. 3. U.	
306.	Guided Missile Intelligence Committee. Report of the Special Engineering Analysis Group, 27 Nov 57, p. i., TS CODEWORD.	25X1
307.	"Texts of the Moscow Announcements on Satellite," New York Times, 4 Nov 57, p. 8. U.	
308.	CIA/HTA B-89-57, 23 Aug 57, Tyura Tam Guided Missile Range Head. TS CODEWORD.	
309.	CIA/HTA JR-4-58, Sep 58, Missile Launching Complex and Test Range, Tyura Tam, USSR. TS CODEWORD.	
310.	Memo, Lundahl for Amory, 15 Oct 57, sub: TALENT Annex to the Semi-Annual Report to the President's Board, p. 1., TS CODEWORD. See reference 306, above, p. 14.	25 <b>X</b> 1
311	CIA/NPIC Mission Folder for B 4059, 10 Sep 57. TS CODEWORD.	•
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313.	CIA/HTA Joint (Army, Navy, CIA) Preliminary Intelligence Study: Kapustin Yar, (5 Vol), n.d., TS CODEWORD.	25X1
314.	Monthly Report of the Military-Scientific Branch, Dec 57, p. 1. S CODEWORD.	
315.	Minutes of the HTA Staff Meeting, 6 Dec 57, p. 2. S CODEWORD CIA IUO.	

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316.	Memo for All Participants in Operation JAM SESSION, 18 Dec 57, sub: Your Contribution to the Success of Operation JAM SESSION,	25X1 25X1
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317.	Letter, ) for A. C. Lundahl, 6 Dec 57. C.	25X1
318.	Letter, for Lundahl, 23 Dec 57. C.	25X1
319.	Memo, , for Lundahl, 11 Feb 58, sub: Contributions of HTA During JAM SESSION. C.	25X1
320.	Letter to Lundahl, 3 Oct 57, sub: Letter of Appreciation. U. Memo, Lundahl for AD/RR, 3 Dec 57, sub: Commenda- tions Received from the Joint Chiefs of Staff.	25X1
321.	Memo, Lundahl for 29 Nov 57, sub: Lundahl , 16 to 22 Nov 57,	25X1
	s CODEWORD.	25X1 25X1
322.	Minutes of the HTA Staff Meeting, 13 Dec 57, p. 1. S CODEWORD CIA IUO.	
323.	Letter, , 20 Nov 57, sub: Appreciation for the Lundahl Briefing. TS and Personal.	25X1
324.	Letter, for Lundahl, 29 Nov 57, sub: Appreciation for the Briefing U.	25X1 25X1
325.	Letter, for Allen W. Dulles, 26 Nov 57, sub: Appreciation for	25X1 25X1
326.	Memo, Allen W. Dulles for Lundahl, 11 Dec 57, sub: Letter of Appreciation.	
327.	Memo, Reber for 31 Oct 57, sub: Briefing	25 <b>X</b> 1
	Tour of European Theater Commands, S CODEWORD.	25 <b>X</b> 1
328.	See reference 304, above, p. 4.	
329.	Minutes of the Ad Hoc Requirements Committee on Project AQUATONE, 7 Nov 57, pp. 1, 2, S CODEWORD.	25X1

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330.	Letter for Lundahl, 20 Dec 57, sub: Points of Difference Between Material in Briefing and Positions of OSI, TS CODEWORD.	25X1 25X1
331.	Memo for the record, 16 Mar 73, sub: Conversation with Concerning DGP/OSB Work.  Memo for the record, 19 Mar 73, sub: Conversation with Concerning DGP/OSB Work.	25X1 25X1
332.	Minutes of the Geographic Research Area Staff Meeting, 25 Feb 58.	•
333.	Memo 6 Sep 57, sub: SENSINT Control System Implementation, CST 571. S CODEWORD.	25 <b>X</b> 1
334.	Memo, 29 Oct 57, sub: SENSINT Control System Implementation, CST 688. S CODEWORD.	25 <b>X</b> 1
335.	Memo, 24 Oct 57, sub: General Lewis' 6 September 1957 Memorandum, subject: SEN-SINT Control System Implementation, CST 633. S CODEWORD.	25 <b>X</b> 1
336.	Monthly Reports of the Geographic Branch, Sep 57, Oct 57, Nov 57. S CODEWORD CIA IUO.	
337.	Monthly Report of the Central Branch, Nov 57.	
338.	Memo 18 Dec 57, sub: Project Initiation Memorandum: Sibolga, Indonesia, and Vicinity.	25 <b>X</b> 1
339.	Memo, , , 25 Sep 57, sub: Meeting to Evaluate Existing Photography, SAPC 19486.  Memo, Lundahl for Bissell, 26 Sep 57, sub: 2 October Meeting for the Purpose of Evaluating Existing Photography, S CODEWORD.  CIA/HTA Program-Proposed Discussion Outline, 2 Oct	25X1 25X1
240	57. No classification.	
340.	Memo for the record, 14 Oct 57, sub: Report of Photographic Suppliers Meeting Held at Boston, Mass., on 9 October 1957.	
	Memo, for Lundahl, 15 Oct 57, sub: Trip Report - 9 Oct Suppliers Meeting at Boston (Pho- tographic Configurations - related matters) TS CODEWORD.	25X1 25X1 25X1

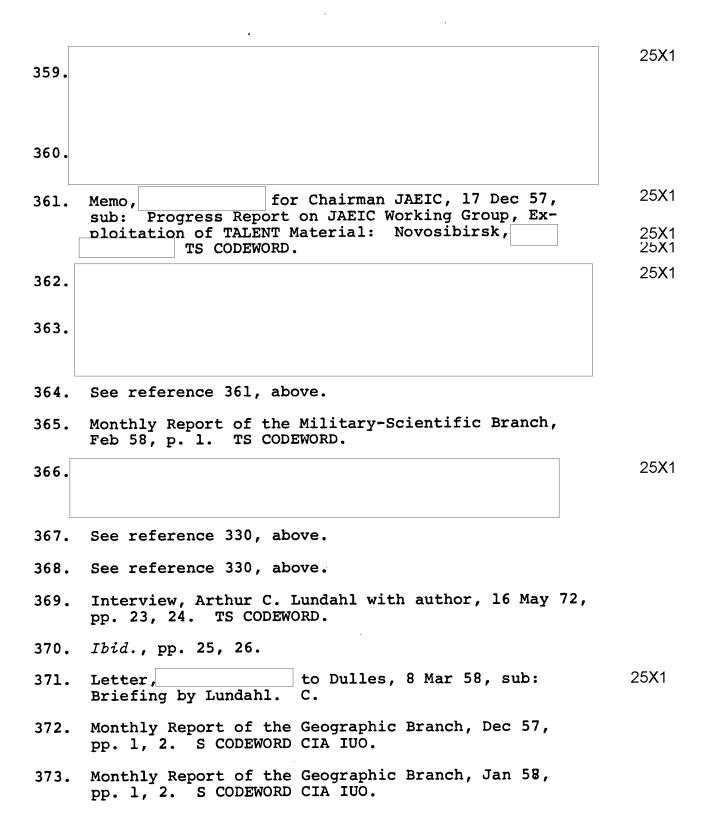
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- 342. Interview, with author, 11 Jul 72, 25X1 pp. 4-7. TS CODEWORD.
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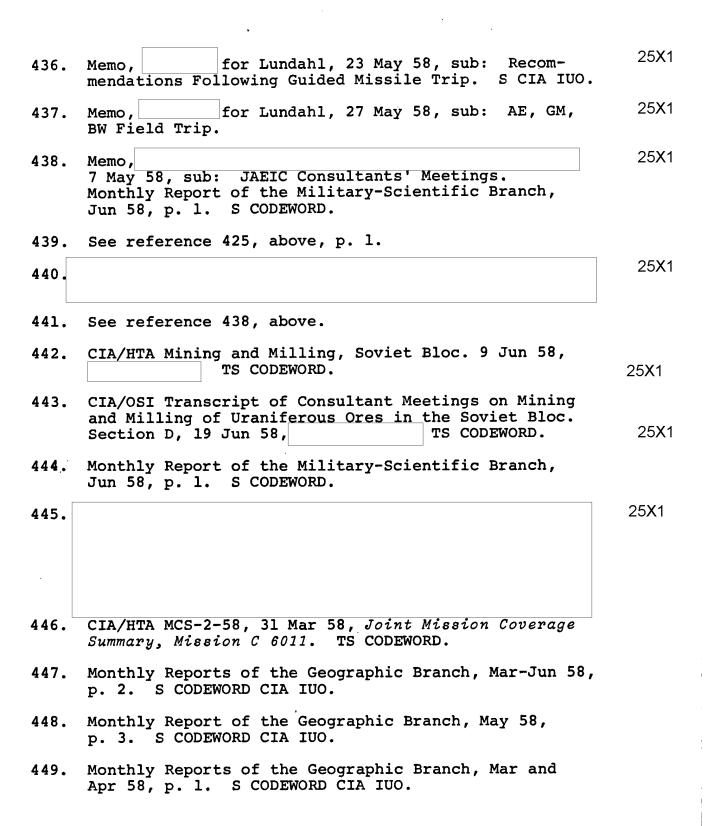
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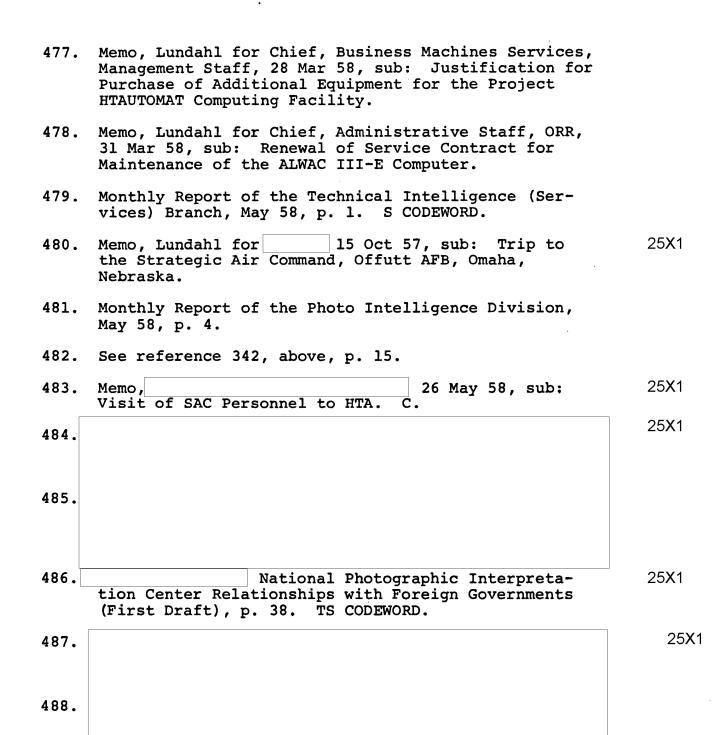
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